JC04 Rec'd PCT/PTO 15 JUN 2001

°FORM PTO-1390 (REV 11-2000) U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. § 371

ATTORNEY'S DOCKET NUMBER: 449122007200

U S. APPLICATION NO. (If known, see 37 CFR 1 5): 09/868248 Not yet assigned

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/DE99/03938	9 December 1999	18 December 1998

TITLE OF INVENTION

METHOD FOR TRANSMITTING SIGNALS IN A CHANNEL FOR ARBITRARY ACCESS TO A RADIOCOMMUNICATION SYSTEM

APPLICANT(S) FOR DO/EO/US

Enric MITJANA

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☒ The US has been elected by the expiration of 19 months from the priority date (PCT Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. ☒ is attached hereto (required only if not communicated by the International Bureau).
   b. ☐ has been communicated by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application under PCT Article 19 (35 U.S.C. 371(c)(2)).
   a. ☒ is attached hereto.
   b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
   a. ☒ are attached hereto (required only if not communicated by the International Bureau).
   b. ☐ have been communicated by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☐ have not been made and will not be made.
8. ☒ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☒ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S C 371(c)(5))

Items 11. to 16. below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3 31 is included.
13. ☐ A FIRST preliminary amendment.
14. ☐ A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter 2 and 35 U S C 1 821 - 1.825
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C 154(d)(4).
20. ☒ Other items or information: 1. International Search Report 2. IPER 3. Information Data Sheet 4. Return receipt postcard

CERTIFICATE OF HAND DELIVERY

I hereby certify that this correspondence is being hand filed with the United States Patent and Trademark Office in Washington, D.C on June 15, 2001

Marieta Luke

Marieta Luke

dc-267128

U.S. APPLICATION NO (if known, see 37 CFR 1.5)	INTERNATIONAL	ATTORNEY'S DOCKET
Not yet assigned 09/868248	APPLICATION NO. PCT/DE99/03938	NUMBER: 449122007200

21. ☒ The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):

Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO.....$1,000.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO.....$860.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO.....$710.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provision of PCT Article 33(1)-(4).....$690.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4).....$100.00

CALCULATIONS PTO USE ONLY		
ENTER APPROPRIATE BASIC FEE AMOUNT =	$860.00	
Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	$0	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	12 - 20 =	0	x $18.00	$0	
Independent claims	3 - 3 =	0	x $80.00	$0	
☐ MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ $270.00	$270.00	
TOTAL OF ABOVE CALCULATIONS =				$1130.00	
☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by ½.				$0	
SUBTOTAL =				$1130.00	
Processing fee of **$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(f)). +				$0	
TOTAL NATIONAL FEE =				$1130.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00 per property** +				$0	
TOTAL FEES ENCLOSED =				$1130.00	
				Amount to be refunded:	**$**
				charged:	**$**

a. ☒ A check in the amount of $1,130.00 to cover the above fees is enclosed.

b. ☐ Please charge my **Deposit Account No. 03-1952** in the amount of $0 to cover the above fees.

c. ☒ The Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment to **Deposit Account No. 03-1952**. A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

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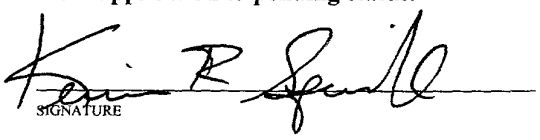


SIGNATURE

Kevin R. Spivak
Registration No. 43,148

Description

Method for transmitting signals in a random access channel of a radio communication system

The invention relates to a method and to a subscriber station for transmitting signals in a random access channel of a radio communication system.

In radio communication systems, messages (for example voice, picture information or other data) are transmitted via a radio interface with the aid of electromagnetic waves. The radio interface relates to a connection between a base station and subscriber stations, where the subscriber stations can be mobile stations or stationary radio stations. The electromagnetic waves are radiated by means of carrier frequencies which are within the frequency band provided for the respective system. For future radio communication systems, for example the UMTS (Universal Mobile Telecommunication System) or other third-generation systems, frequencies are provided in the frequency band of approx. 2000 MHz.

A random access channel (RACH) of a radio communication system is characterized by the fact that the access to this channel is not coordinated. The mobile stations of a radio cell can use this channel without prior allocation in order to request, for example, a subsequent allocation of radio resources, e.g. when setting up a connection.

Due to the uncoordinated access, however, collisions occur between the transmissions of the individual mobile stations. If the transmissions of a number of mobile stations become superimposed in a receiving base station, the transmissions are no longer detectable and thus the mobile stations do not receive an acknowledgement of the transmission.

After a collision, the mobile stations attempt to retransmit in the random access channel. The more frequently the access has to be repeated, the longer the waiting time and the lower the efficiency of this access method.

In DE 198 17 771, it has been proposed, therefore, to admit access blocks which are orthogonal to one another in time and to reduce the probability of a collision by selecting one of a number of different access blocks, i.e. of different transmitting times within the channel. From ETSI SMG2 UMTS L1 Expert Group, Tdoc SMG2 UMTS-L1 455/98, October 14, 1998, another possibility for improving the efficiency of the method has become known. In this document, it is proposed to provide an incremental increase in power. The mobile station begin with a transmitting power which is reduced with respect to the normal power setting and incrementally increase the transmitting power until reception is acknowledged by the base station.

The invention is based on the object of further increasing the efficiency of the signal transmission in the random access channel. This object is achieved by the method having the features of claim 1 and the subscriber station having the features of claim 10. Advantageous further embodiments of the invention can be found in the subclaims.

According to the invention, a number of subscriber stations use the random access channel in an uncoordinated manner and in this channel transmit signals with a transmitting power corresponding to predetermined attenuation values in which rearrangement, however, the transmitting power is excessively increased for a subset of the first transmissions of the signal transmission. If there are collisions between two transmissions which now do not have the same received power at the base station, at least the more powerful signal can be utilized and only

the transmission of the weaker signal needs to be repeated

when there is sufficient difference in power. On average, this reduces the delay before the transmissions are successfully received.

Utilizing the so-called capture effect, a signal will succeed if the transmitting powers have been set in such a way that, in contrast to a uniform equalization of the attenuations of the transmission path, a transmission is already transmitted at excessive transmission power at the first time. In contrast to the solution according to ETSI SMG2 UMTS-L1 Expert Group, Tdoc SMG2 UMTS-L1 455/98, October 14, 1998, not all subscriber stations are treated the same way and transmissions do not first occur at reduced transmitting power.

According to an advantageous further development of the invention, the transmitting power is increased for a subset of applications. These applications are thus prioritized with respect to the probability of immediate detection. Such prioritization can also apply to a subset of the subscriber stations or a subset of services apart from the application, e.g. as request for the allocation of radio resources, as acknowledgement or as message for updating the location of subscriber stations. This makes it possible for the operater of the radio communication system to differentiate within applications, subscriber stations or services and to charge correspondingly for higher quality.

As an alternative, it is possible that the subscriber stations arbitrarily increase the transmitting power in deviation from predetermined attenuation values. As a result of this message, the number of undetected transmissions will also drop, even if not in accordance with priorities, and the efficiency of the method will increase.

According to a further advantageous embodiment of the method, the transmitting power is excessively increased in different steps. Having a number of

possible steps, the probability of transmissions arriving simultaneously with the same received power at the base station is further reduced. The transmission with the transmitting power with the greater excessive increase is successful. In the case of retransmissions, the step of excessive increase is changed. This can be done in the direction of reduced or increased transmitting power. This prevents the transmissions of two subscriber stations from taking place in parallel continuously with excessively increased but equal transmitting power. The choice of step or change in step is made by the subscriber station in an arbitrary manner, that is to say in a manner which is not the same for all subscriber stations.

A particularly important factor is the utilization of a resource unit of the radio resources in radio communication systems having broadband channels, since the smallest resource unit is relatively large. The channels are organized in accordance with a TDD or FDD mode of a UMTS mobile radio system.

Exemplary embodiments of the invention will be explained in greater detail with reference to the attached drawings, in which:

figure 1 shows a radio communication system,

figure 2 shows a diagrammatic representation of a TDD radio interface between base station and subscriber stations,

figure 3 shows a simplified representation of the transmitting power adjustment and

figure 4 shows a simulation result.

The mobile radio system shown in figure 1 as an example of a radio communication system consists of a multiplicity of mobile switching centers MSC which are networked together and, respectively, represent the access to a landline network PSTN. Furthermore, these mobile switching centers MSC are connected to in each case at least one device RNC for controlling the base

stations BS and for allocating radio resources, i.e. a radio resource manager. Each of these devices RNC, in turn, provides for a connection to at least one base station BS. Such a base station BS can set up a connection to a subscriber station, e.g. mobile stations MS or other types of mobile and stationary terminals, via a radio interface. Each base station BS forms at least one radio cell.

Figure 1 shows by way of example connections V1, V2, V3 for transmitting user information ni and signaling information as point-to-point connections between mobile stations MS and a base station BS and a control channel BCCH as point-to-multipoint connection. In the control channel BCCH, control information oi is transmitted by the base station BS at a known constant transmitting power and this information can be utilized by all subscriber stations MS and contains information on the services offered in the radio cell and on the configuration of the channels of the radio interface. In the uplink UL, a random access channel RACH is offered to the subscriber stations MS.

An operation and maintenance center OMC implements control and maintenance functions for the mobile radio system or, respectively, for parts thereof. The functions of this structure can be transferred to other radio communication systems in which the invention can be used, particularly for subscriber access networks with wireless subscriber access and for base stations and subscriber stations operated in the unlicensed frequency band.

In the text which follows, the invention will be explained with reference to a mobile radio system having a radio interface in the TDD (time division duplex) transmission method, use in the FDD (frequency division duplex) transmission method also being possible.

Figure 2 shows the frame structure of a TDD radio transmission. According to a TDMA (time division multiple access) component, a broadband frequency band, for example of bandwidth B = 5 MHz, is divided into a number of timeslots ts of the same duration, for example 16 timeslots ts0 to ts15 per frame fr. Some of the timeslots ts are used in the downlink DL and some of the timeslots are used in the uplink UL. In this TDD transmission method, the frequency band for the uplink UL corresponds to the frequency band for the downlink DL.

Within a timeslot ts6, information of a number of connections is transmitted in message blocks FB. The data d are spread with a fine structure, a spread-spectrum code c for each connection so that at the receiving end, for example, n connections can be separated by this CDMA (code division multiple access) component.

A timeslot ts7 in the uplink UL is used as random access channel RACH which can be accessed in an uncoordinated manner by the mobile stations MS. This random uncoordinated access can be used for the following applications:

- initial access for setting up a connection,
- transmission of small data packets,
- transmission of an acknowledgement of received data packets,
- request of the mobile station MS for allocation of radio resources during a connection,
- updating of the location of the mobile station MS in the so-called "idle state".

Although the mobile stations MS use the random access channel RACH in an uncoordinated manner, they do so with regulated transmitting power. For this purpose, attenuation values (path loss) are initially determined by measurements. The attenuation values can be advantageously determined by

evaluation of the received power of the control channel BCCH, see figure 3. The control channel BCCH is continuously accessible and transmits at known transmitting power. From the measured received power at the mobile station MS, a control device in the mobile station MS can calculate the transmitting power of a transmitting device of the mobile station MS which is necessary for a particular received power at the base station BS and which guarantees compensation for the loss. The lower the received power at the mobile station MS, the greater the transmitting power which must be set in the uplink UL.

However, not all the mobile stations MS are transmitting, and not all are transmitting continuously at this calculated transmitting power, and not continuously, but a subset of the applications, mobile stations MS or services (e.g. by means of the quality of service QoS) are prioritized so that an excessive transmitting power can also be used already in the first transmission. In figure 3, mobile station MS2 is prioritized. This excessive increase also leads to an increased received power in the RACH channel at the base station BS. It is also within the scope of the invention that, in general, the level of the transmitting power of the initial transmission is lowered down to the subset.

In comparison with a transmitting power referred to the attenuation, the transmitting power selected by a mobile station MS can be excessively increased to be lower, equal to or in accordance with a particular step. A corresponding picture is produced with respect to the received power at the base station BS in the case of simultaneous transmission by the two mobile stations MS1 and MS2. In figure 3, the proportion of power of the signal is much greater from mobile station MS2 than from mobile station MS1. This results in a high probability that the received power

will be sufficiently greater for a transmission to provide for utilization, nevertheless, even in the case of collisions, i.e. the same type of use of the RACH channel by a number of mobile stations MS. In this case,

only the remaining transmissions need to be repeated. If necessary, the repetition is carried out with another step of the excessive increase in transmitting power and at a time interval which can be individually defined by each mobile station MS.

Figure 4 shows the result of a simulation which compares the probability of utilizability (BLER - block erasure rate) of two transmissions transmitted in the same frequency band, with the same spread-spectrum code and in the same timeslot. The parameter is the difference in power between the transmitting powers over and above the differences in attenuation. The greater the excessive increase in transmitting power, the greater the probability of utilizability.

Patent claims

1. A method for transmitting signals in a random access channel (RACH) in a radio communication system which exhibits first and second subscriber stations (MS), in which

- the subscriber stations (MS) use the random access channel (RACH) in an uncoordinated manner,
- an attenuation value for the respective transmission path is determined for each subscriber station (MS),
- and the first subscriber stations (MS) carry out a signal transmission in the channel (RACH) at a transmitting power which corresponds to the previously determined attenuation value,

characterized in that the second subscriber stations (MS) carry out a signal transmission in the channel (RACH) at a transmitting power which is greater than a transmitting power corresponding to the previously determined attenuation value, so that it is excessively increased compared with the former.

2. The method as claimed in claim 1, in which

- the signal transmissions of the subscriber stations (MS) relate to certain applications,
- in which a higher priority is allocated to the applications relating to the signal transmissions of the second subscriber stations (MS) before the signal transmission, than to the applications relating to the signal transmissions of the first subscriber stations.

3. The method as claimed in claim 2, in which the subscriber stations (MS) transmit signals which relate to a request for allocation of radio resources, an acknowledgement or messages for updating the location of subscriber stations (MS).

4. The method as claimed in one of the preceding claims, in which, before the signal transmission, a higher priority is allocated to the second subscriber

stations (MS) compared with the first subscriber stations.

5. The method as claimed in one of the preceding claims, in which

- the signal transmissions of the subscriber stations (MS) relate to certain services,
- in which a higher priority is allocated to the services relating to the signal transmissions of the second subscriber stations (MS), before the signal transmission, than to the services relating to the signal transmissions of the first subscriber stations.

6. The method as claimed in one of the preceding claims, in which the transmitting power is excessively increased by the second subscriber stations (MS) to a differing extent.

7. The method as claimed in claim 6, in which the extent of the excessive increase is changed with retransmission of the signal by the second subscriber stations (MS).

8. The method as claimed in one of the preceding claims, in which the attenuation values for the transmission path are determined by evaluating the received power of a control channel (BCCH).

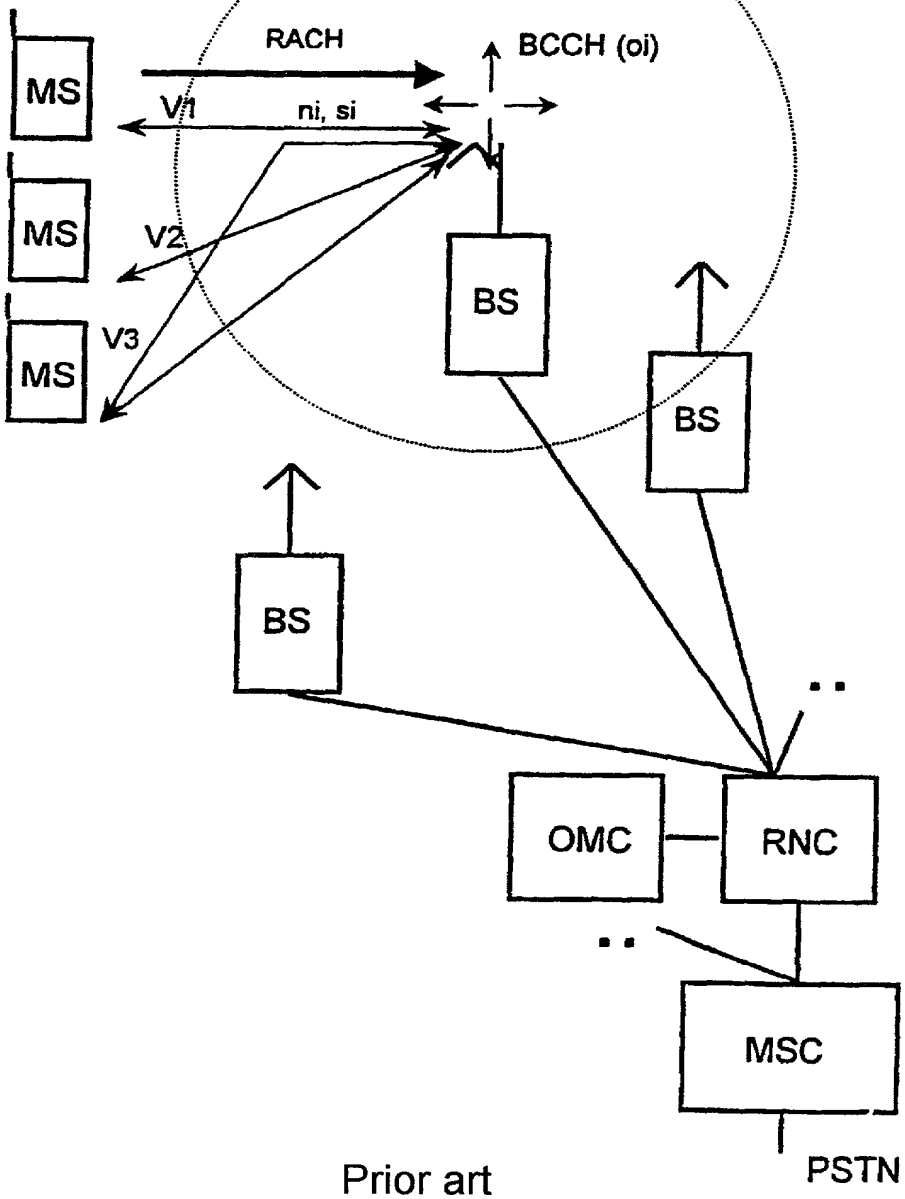
9. The method as claimed in one of the preceding claims, in which the channel (RACH) is a broadband channel and is arranged in accordance with a TDD or FDD mode of a UMTS mobile radio system.

10. A subscriber station for a radio communication system which has a random access channel (RACH) which is used in an uncoordinated manner by a number of subscriber stations (MS),

- comprising a transmitting device for transmitting signals in the random access channel (RACH),
- comprising a unit for determining an attenuation value for the respective transmission path,

- and comprising a control device for setting the transmitting power for the signal transmission to a value which is greater than a transmitting power corresponding to the previously determined attenuation value.

Fig. 1



Prior art

Fig. 2

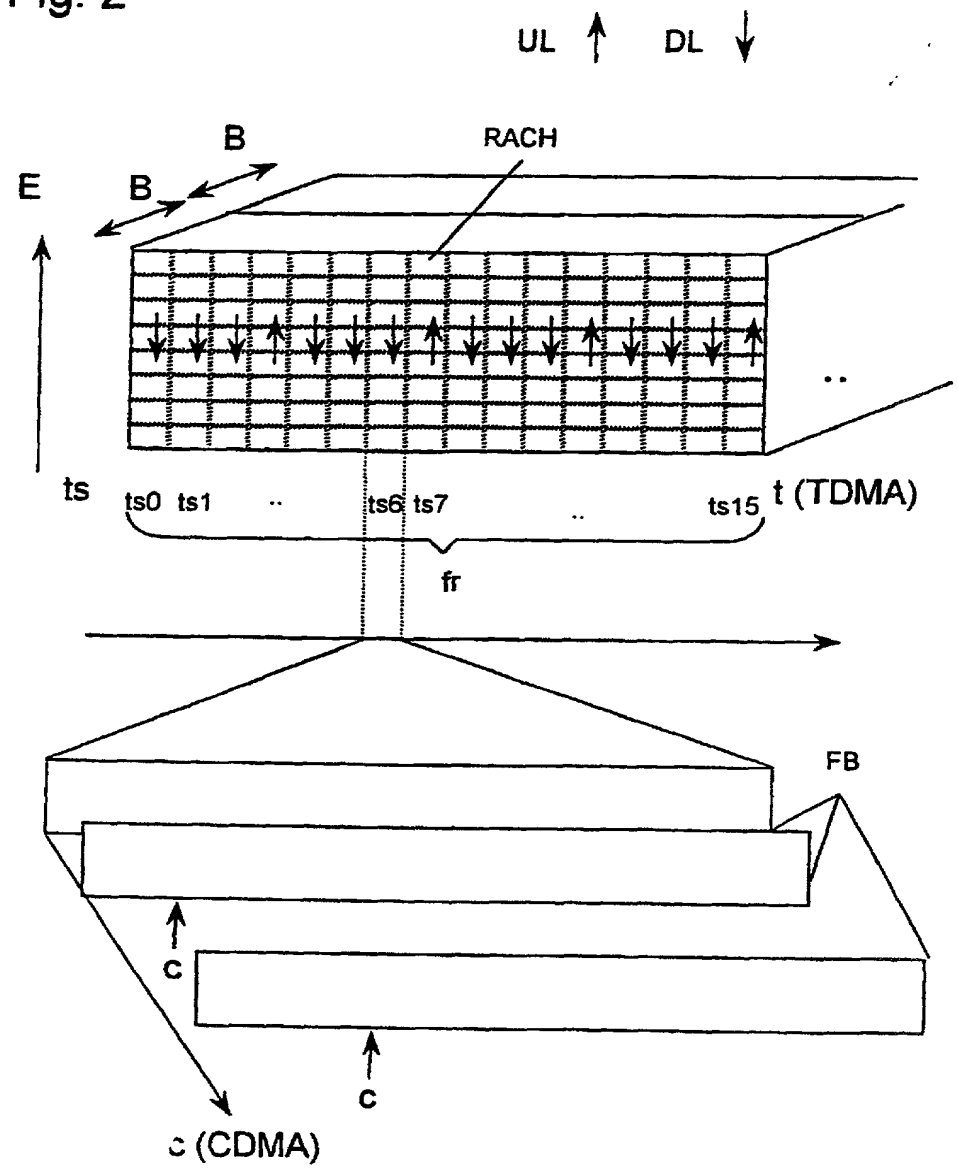


Fig. 3

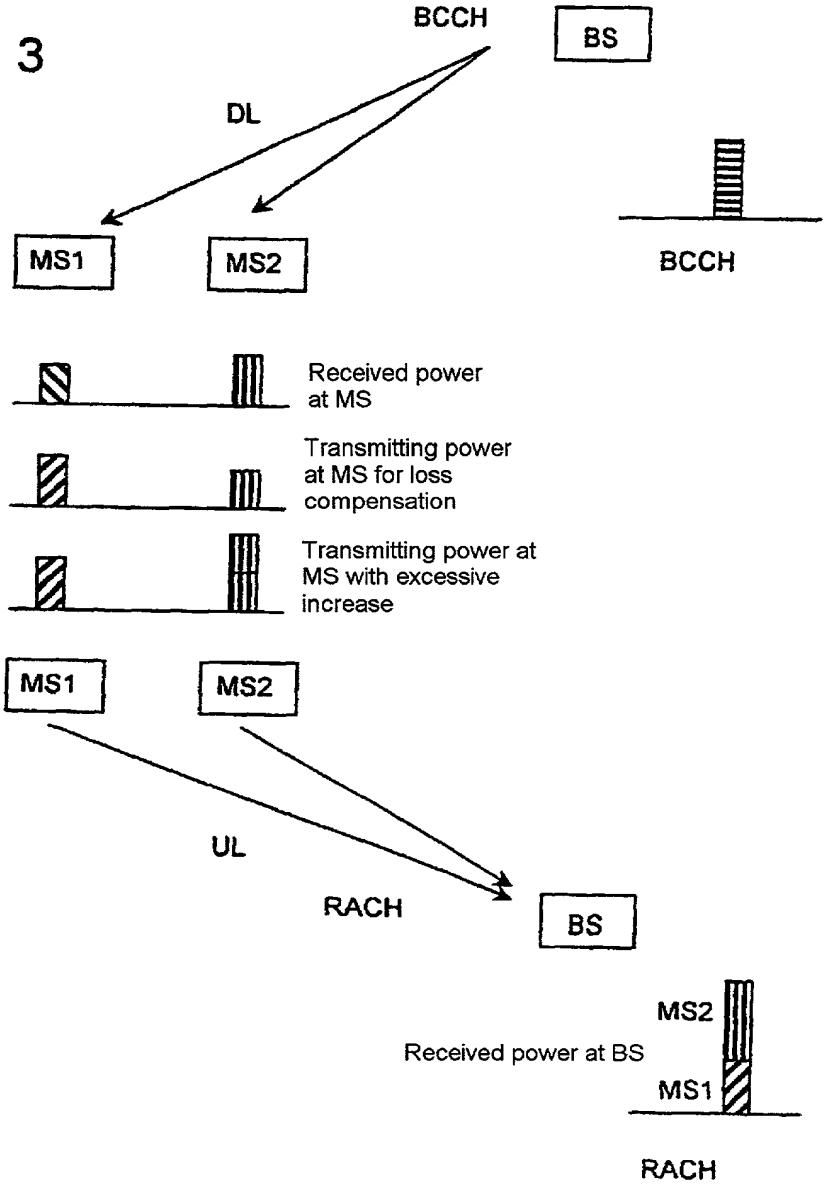
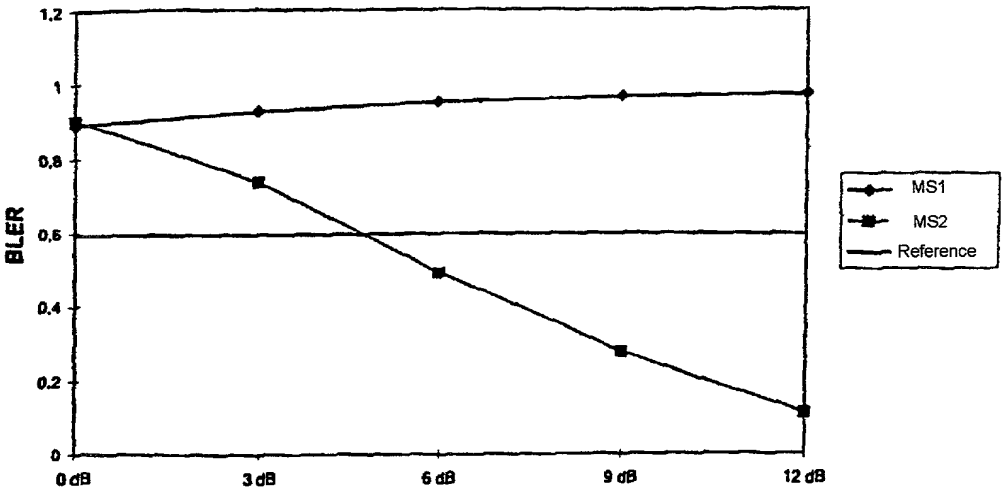

BCCH
BS
DL
MS1
MS2
BCCH
Received power at MS
Transmitting power at MS for loss compensation
Transmitting power at MS with excessive increase
MS1
MS2
UL
RACH
BS
MS2
Received power at BS
MS1
RACH

Fig. 4



Increase in power of MS1 with respect to MS2

Declaration and Power of Attorney For Patent Application
Erklärung Für Patentanmeldungen Mit Vollmacht
German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit an Eides Statt:

dass mein Wohnsitz, meine Postanschrift, und meine Staatsangehörigkeit den im Nachstehenden nach meinem Namen aufgeführten Angaben entsprechen,

dass ich, nach bestem Wissen der ursprüngliche, erste und alleinige Erfinder (falls nachstehend nur ein Name angegeben ist) oder ein ursprünglicher, erster und Miterfinder (falls nachstehend mehrere Namen aufgeführt sind) des Gegenstandes bin, für den dieser Antrag gestellt wird und für den ein Patent beantragt wird für die Erfindung mit dem Titel:

Verfahren zur Signaluebertragung in einem Kanal zum willkuerlichen Zugriff eines Funk-Kommunikationssystems

deren Beschreibung

(zutreffendes ankreuzen)
☐ hier beigefügt ist.
☒ am 09.12.1999 als
PCT internationale Anmeldung
PCT Anmeldungsnummer PCT/DE99/03938
eingereicht wurde und am _____
abgeändert wurde (falls tatsächlich abgeändert).

Ich bestätige hiermit, dass ich den Inhalt der obigen Patentanmeldung einschliesslich der Ansprüche durchgesehen und verstanden habe, die eventuell durch einen Zusatzantrag wie oben erwähnt abgeändert wurde.

Ich erkenne meine Pflicht zur Offenbarung irgendwelcher Informationen, die für die Prüfung der vorliegenden Anmeldung in Einklang mit Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) von Wichtigkeit sind, an.

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäss Abschnitt 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 119 aller unten angegebenen Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde, und habe auch alle Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde nachstehend gekennzeichnet, die ein Anmeldedatum haben, das vor dem Anmeldedatum der Anmeldung liegt, für die Priorität beansprucht wird.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Method for transmitting signals in a channel for arbitrary access to a radiocommunication system

the specification of which

(check one)
☐ is attached hereto.
☒ was filed on 09.12.1999 as
PCT international application
PCT Application No. PCT/DE99/03938
and was amended on _____
(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

German Language Declaration

Prior foreign appplications
Priorität beansprucht

			Priority Claimed	
19858725.2	DE	18.12.1998	☒	☐
(Number) (Nummer)	(Country) (Land)	(Day Month Year Filed) (Tag Monat Jahr eingereicht)	Yes Ja	No Nein
			☐	☐
(Number) (Nummer)	(Country) (Land)	(Day Month Year Filed) (Tag Monat Jahr eingereicht)	Yes Ja	No Nein
			☐	☐
(Number) (Nummer)	(Country) (Land)	(Day Month Year Filed) (Tag Monat Jahr eingereicht)	Yes Ja	No Nein

Ich beanspruche hiermit gemäss Absatz 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 120, den Vorzug aller unten aufgeführten Anmeldungen und falls der Gegenstand aus jedem Anspruch dieser Anmeldung nicht in einer früheren amerikanischen Patentanmeldung laut dem ersten Paragraphen des Absatzes 35 der Zivilprozeßordnung der Vereinigten Staaten, Paragraph 122 offenbart ist, erkenne ich gemäss Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) meine Pflicht zur Offenbarung von Informationen an, die zwischen dem Anmeldedatum der früheren Anmeldung und dem nationalen oder PCT internationalen Anmeldedatum dieser Anmeldung bekannt geworden sind.

I hereby claim the benefit under Title 35. United States Code. §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §122, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occured between the filing date of the prior application and the national or PCT international filing date of this application.

PCT/DE99/03938 (Application Serial No.) (Anmeldeseriennummer)	09.12.1999 (Filing Date D, M, Y) (Anmeldedatum T, M, J)	(Status) (patentiert, anhängig, aufgegeben)	(Status) (patented, pending, abandoned)
(Application Serial No.) (Anmeldeseriennummer)	(Filing Date D,M,Y) (Anmeldedatum T, M; J)	(Status) (patentiert, anhängig, aufgeben)	(Status) (patented, pending, abandoned)

Ich erkläre hiermit, dass alle von mir in der vorliegenden Erklärung gemachten Angaben nach meinem besten Wissen und Gewissen der vollen Wahrheit entsprechen, und dass ich diese eidesstattliche Erklärung in Kenntnis dessen abgebe, dass wissentlich und vorsätzlich falsche Angaben gemäss Paragraph 1001, Absatz 18 der Zivilprozessordnung der Vereinigten Staaten von Amerika mit Geldstrafe belegt und/oder Gefängnis bestraft werden koennen, und dass derartig wissentlich und vorsätzlich falsche Angaben die Gültigkeit der vorliegenden Patentanmeldung oder eines darauf erteilten Patentes gefährden können.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

German Language Declaration

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